

Use of Electronic Analog Computers (Cont.)

80V/2201

The book makes use of the results of a number of electronic analog computers of the EMU type, developed by the author and his colleagues at the Institut avtomatiki i telemekhaniki (Institute of Automation and Telemechanics--IAT) of the Academy of Sciences, USSR, and also the material from a course on analoging of automatic control systems given by the author from 1950 to 1956 at the MVTU and IAT for scientific coworkers and at the Moscow Physico-Technical Institute. The author thanks A. A. Fel'dbaum, Ya. Z. Tsypkin, I. M. Tetel'baum, L.V. Yamshanov, V. A. Trapeznikov and his colleagues at the IAT, Y. Ye. Traninyy, V. V. Gurovyy, A. A. Maslovyy, and T. V. Pritullo for their aid in preparing the book. There are 186 references: 119 Soviet, 60 English, 4 French, 2 German and 1 Spanish.

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Card 2/8

ALEKPEROV, V.P., insh.; ATOVMIAN, I.O., insh.; ZUIEV, V.I., insh.; KAVUN, Ye.S., kand.tekhn.nauk; KOGAN, B.Ya., kand.tekhn.nauk; KOPAY-GORA, P.N., kand.tekhn.nauk; KULAKOV, A.A., insh.; LEBENDEV, A.N., kand.tekhn.nauk; PAPERNOV, A.A., doktor tekhn.nauk; PEL'POR, D.S., doktor tekhn.nauk; PLOTNIKOV, V.N., kand.tekhn.nauk; RUZSKIY, Yu.Ye., kand.tekhn.nauk; SOLODOVNIKOV, V.V., doktor tekhn.nauk; TOPCHNYEV, Yu.I., kand.tekhn.nauk; ULANOV, G.M., kand.tekhn.nauk; SHRAMKO, L.S., kand.tekhn.nauk; DOBROGURSIIY, S.O., doktor tekhn.nauk, retsensent; KAZAKOV, V.A., kand.tekhn.nauk, retsensent; PETROV, V.V., kand.tekhn.nauk, retsensent; KHAVKIN, G.A., insh., retsensent; SOLODOVNIKOV, V.V., prof., doktor tekhn.nauk, red.; VITENBERG, I.M., kand.tekhn.nauk, nauchnyy red.; MOLDAVER, A.I., kand.tekhn.nauk, nauchnyy red.; KHETAGUROV, Ya.A., kand.tekhn.nauk, nauchnyy red.; POLYAKOV, G.F., red.isd-va; KONOVALOV, G.M., red.isd-va; SOKOLOVA, T.F., tekhn.red.

[Fundamentals of automatic control] Osnovy avtomaticheskogo regulirovaniya. Vol.2. [Elements of automatic control systems] Elementy sistem avtomaticheskogo regulirovaniya. Pt 2. [Compensating elements and computer components] Korrektiruyushchie elementy i elementy vychislitel'nykh mashin. Moskva, Gos.nauchno-tekhn. isd-vo mashinostroit.lit-ry, 1959. 453 p. (MIRA 12:4)
 (Automatic control) (Electronic apparatus and appliances)
 (Electronic calculating machines)

KOGAN, B. YA.

S/024/60/000/04/002/013
E140/E463 82206

16.6800

AUTHOR: Kogan, B. Ya. (Moscow)

TITLE: On the Reproduction of Nuclear Reactor ¹⁹ Starting Processes on Electronic Analogue Computers ¹⁰

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Energetika i avtomatika, 1960, No. 4, pp. 36-47

TEXT: In the modelling of starting processes in nuclear reactors the dynamic range required for the parameters expressing the neutron flux and the concentration of nuclei radiating slow neutrons may be 10^{10} . However, the usual dynamic range for electronic analogue computers is only 10^3 . The author describes two methods for overcoming this difficulty: division of the range of variation of the parameters into subranges of convenient variation, e.g. 10:1, with automatic passage from one range to the next or transformation of the equations of the system to permit logarithmic representation of the parameters in question. The two methods are examined in some detail, questions of relay circuits for the automatic range switching being given particular attention, and the relative errors of the methods estimated. It is concluded that despite the more complex circuits required the range-switching

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AUTHOR: Kogan, B. Ya. (Moscow)

TITLE: On Methods of Modeling of Fractionally Rational Transfer Functions Without Using Differentiating Elements

PERIODICAL: Avtomatika i telemekhanika 1960, Vol 21, Nr 1, pp 72-81 (USSR)

ABSTRACT: In the study methods are compared of modeling fractionally rational transient functions without making use of differentiating elements. The transfer functions are considered with constant and variable coefficients of the initial differential equations. The following four methods of modeling are compared using only the integrating and summing elements: (1) the direct integration; (2) the splitting of the transfer function into the simple forms (method of structural transformation); (3) the resolving into equations of the first order; (4) the combining of derivatives.

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(1) Method of direct integration. This method is explained on the following equation:

$$a_3 y''' + a_2 y'' + a_1 y' + a_0 y = b_0 x + b_1 x' + b_2 x'' + b_3 x'''$$

where a_0, a_1, a_2, a_3 and b_0, b_1, b_2, b_3 are given constant coefficients, $y(0), y'(0), y''(0)$ are initial conditions and x is perturbation dependence of which on time is not given. This equation is transformed into:

$$y = -\frac{1}{p} (1-y-b_0x) - \frac{1}{p^2} (a_1 y - b_1 x) - \frac{1}{p^3} (a_2 y - b_2 x) + b_3 x - (a_3 - 1) y. \quad (3)$$

Denoting the sum of the terms which contain the symbols of integration by z_1 the following equation is obtained:

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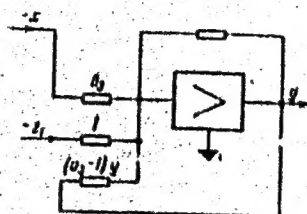
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$$y = z_1 + b_3 x - (a_3 - 1) y. \quad (4)$$

The quantity y may be modeled by a summator shown on
Fig. 1, in accordance with Eq. (4):



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Fig. 1.

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Then the derivative pz_1 is determined as:

$$pz_1 = -(a_1y - b_1x) + z_1,$$

where

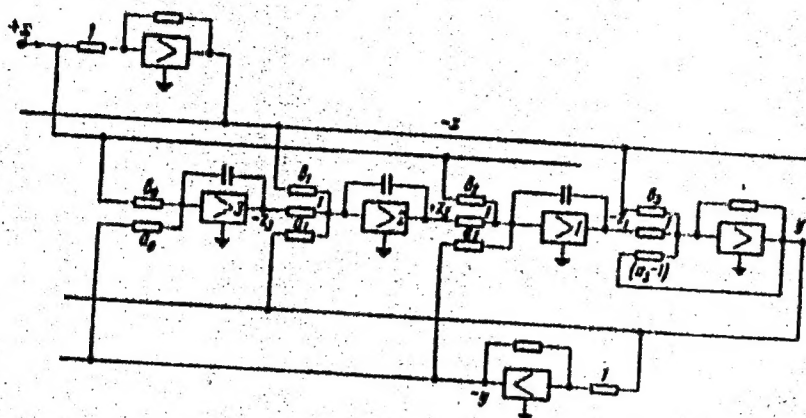
$$z_1 = -\frac{1}{p}(a_1y - b_1x) - \frac{1}{p^2}(a_0y - b_0x)$$

One integrator must be added to the set-up of component elements. Figure 2 shows the entire block diagram of the set-up. The main advantage of this method is that the set-up is made according to the initial coefficients, and the initial conditions may be easily determined. (2) Splitting the transfer function into simple forms. This is based on the assumption that any transfer function $W(s)$ may be considered as a transfer function of a certain single loop system with negative

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Fig. 2.

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feedback, as shown on Fig. 3.

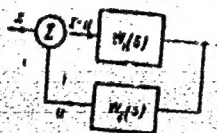


Fig. 3.

For this system the transfer function $W(s)$ is determined as follows:

$$W(s) = \frac{H(s)}{P(s)} = \frac{W_1(s)}{1 + W_1(s)W_2(s)} \quad (8)$$

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where some limitations are imposed on W_1 and W_2 .

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This method is illustrated by an example when $R(s) = b_0 + b_1s + b_2s^2 + b_3s^3$ and $P(s) = a_0 + a_1s + a_2s^2 + a_3s^3$; The modeling problem reduces to making the set up corresponding to the following set of equations:

$$\begin{aligned} y &= \frac{1}{T_0}(x-u), \\ (n_0 + n_1s)u &= y - u_1, \\ (q_0 + q_1s)u_1 &= u - u_2, \\ (c_0 + c_1s)u_2 &= r_0u_1. \end{aligned} \quad (13)$$

Corresponding to this set of equations, the block diagrams of the system and of the set-up are shown on Figs. 4 and 5, respectively. This method requires a larger number of inverters in comparison with the method of direct integration. The calculation of coefficients of transformed equations requires much time. (3) Resolving the initial nonhomogeneous

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equation of n -th order into a system of n nonhomogeneous equations of the first order. One of the many well known methods is outlined. The linear differential equation with constant coefficients is given in the form:

$$\begin{aligned} \frac{d^n y}{dt^n} + a_{n-1} \frac{d^{n-1} y}{dt^{n-1}} + \dots + a_1 \frac{dy}{dt} + a_0 y = \\ = b_0 x + b_1 \frac{dx}{dt} + \dots + b_{n-1} \frac{d^{n-1} x}{dt^{n-1}} + b_n \frac{d^n x}{dt^n} \end{aligned} \quad (14)$$

This equation may be transformed into the following system of linear differential equations of the first order:

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$$\begin{aligned} y &= y_1 + a_n x, \\ \frac{dy_1}{dt} &= y_2 + a_{n-1} x, \\ &\dots \dots \dots (15) \\ \frac{dy_{n-1}}{dt} &= y_n + a_1 x, \\ \frac{dy_n}{dt} &= -a_{n-1} y_n - a_{n-2} y_{n-1} - \dots - a_1 y_1 - a_0 y_1 + a_0 x. \end{aligned}$$

The block diagram of the set-up is completed according to this equation in the form shown on Fig. 6a. The general number of blocks $(n + 3)$ where n is the order of the differential equation. As an example, the reproduction is given of the transfer function

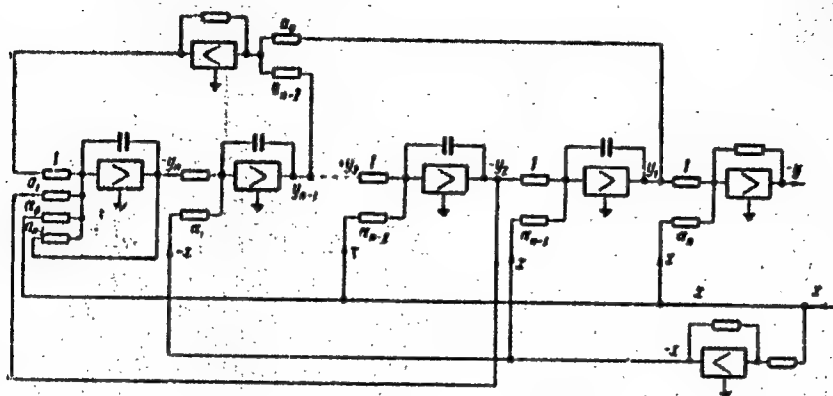
$$W(s) = \frac{s^2 - \frac{6}{\tau} s + \frac{12}{\tau^2}}{s^2 + \frac{6}{\tau} s + \frac{12}{\tau^2}}.$$

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Fig. 6a.

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approximating the transfer function of a link element

e^{-sT} by means of the Pad series at $\gamma = \nu = 2$.

(4) Method of combining the derivatives. The initial equation is considered in the form of Eq. (14). Introducing a new variable u determined as

$$u = \frac{x}{p^n + a_{n-1}p^{n-1} + \dots + a_1p + a_0}. \quad (17)$$

the following resultant equation is obtained:

$$y = b_n \frac{d^n u}{dt^n} + b_{n-1} \frac{d^{n-1} u}{dt^{n-1}} + \dots + b_1 \frac{du}{dt} + b_0 u. \quad (18)$$

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Equation (17) can be rewritten in a differential form
as follows:

$$\frac{d^n u}{dt^n} + a_{n-1} \frac{d^{n-1} u}{dt^{n-1}} + \dots + a_1 \frac{du}{dt} + a_0 u = x. \quad (19)$$

In order to design the structural diagram, first, Eq. (19) must be "set-up" according to the method of lowering the order of the derivative. Then the looked for variable y must be formed as a sum of u -derivatives with corresponding coefficients. By solving Eq. (19), the values of du/dt are obtained directly from the corresponding outputs of integrators. The resultant equations are given in the form:

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$$\frac{d^n u}{dt^n} + a_{n-1} \frac{d^{n-1} u}{dt^{n-1}} + \dots + a_1 \frac{du}{dt} + a_0 u = x,$$

$$y = (-b_n a_{n-1} + b_{n-1}) \frac{d^{n-1} u}{dt^{n-1}} + \dots + (-b_n a_1 + b_1) \frac{du}{dt} +$$

$$+ (-b_n a_0 + b_0) u + b_n x.$$

The structural diagram of the set-up corresponding to these equations for $m = n = 3$ is shown on Fig. 7. In the general case $n + 3$ blocks are required for the set-up. (5) Methods of modeling the differential equations with variable coefficients. In order to design the set-up for the solution of differential Eq. (14) with variable coefficients, the method of direct integration, or the method of resolving into the set of differential equations of the first order, may be used. Using the first method, Eq. (14) is replaced by an equivalent equation in the form:

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$$\sum_{j=0}^n (-1)^j (a_j y)^{(j)} = - \sum_{j=0}^m (-1)^j (\beta_j x)^{(j)}, \quad (20)$$

where y and x are the same variables as in Eq. (14) and $\alpha_j(t)$, $\beta_j(t)$ are new functions of time. Matyash proved ("Programming of Linear Differential Equations With Variable Coefficients for Solving by Means of Modeling Calculating Machines," Programmirovaniye lineynykh differentsial'nykh uravneniy s peremennymi koeffitsientami dlya ikh resheniya pri pomoshchi modeliruyuchchikh vychislitel'nykh mashin.) that the new coefficients must be related to the old coefficients by means of the following equations:

$$\beta_{m-k} = \sum_{i=0}^k (-1)^{(m-i)} \frac{(m-i)!}{(m-k)!(k-i)!} \beta_{m-i}^{(k-i)} \quad (k=0, 1, 2, \dots, m).$$

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$$\alpha_{n-k} = \sum_{i=0}^k (-1)^{(n-i)} \frac{(n-i)!}{(n-k)!(k-i)!} \alpha_{n-i}^{(k-i)} \quad (k=0, 1, 2, \dots, n).$$

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Using the second method, parameters $a_n(t)$, $a_{n-1}(t)$, ..., $a_0(t)$ of the transformed equations must be considered as functions of time. The determination of these functions may be made from the initial variable coefficients by making use of the following recurrent equation:

$$a_0(t) = b_0(t), a_i(t) = b_i(t) - \sum_{k=0}^{i-1} \sum_{r=0}^{i-k} \bar{c}_{n+r-i-k-r} (t) \frac{d^k a_r(t)}{dt^k}.$$

In the conclusions the author states that the minimum number of amplifiers for solutions in the set-up diagrams is $n + 3$, where n is the order of modeled differential equation. The most simple method from the point of view of preparation, is the method of combining the derivatives. For solution of differential equations with variable coefficients the

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preference should be given to the method of transition to the equivalent system of differential equations of the first order, since this requires the minimum auxiliary calculations. There are 7 figures; and 6 references, 5 Soviet, 1 U.S. The U.S. reference is: Jonson, C. L. F. Analog Computer Techniques, McGraw-Hill, 1956.

SUBMITTED:

June 2, 1959

Card 18/18

S/103/60/021/012/007/007
B012/B064

AUTHORS: Vil'dt, Ye. O., Landsberg, R. S., Kogan, B. Ya.

TITLE: Bibliography. List of Publications on Problems of the
Mathematical Simulating (on Analog Computers) of 1958

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 12,
pp. 1629-1652

TEXT: Total number of articles published: 446. 10 books are listed.
Transactions of congresses and conferences, information: 18; general
theoretical problems: 72 (general problems: 43, methods of solving prob-
lems by means of analog computers: 18, accuracy of analog computers and
their elements: 11; analog computers with non-direct analogy: 181 (elec-
tronic devices: 45, computing elements of electronic devices: 92 (elec-
tronic direct-current amplifiers: 15, transistor computing amplifiers: 8,
integrating and differentiating devices: 8, multiplication and division
devices: 18, function generators: 34, other computing elements and
auxiliary equipment: 9), electromechanical devices: 11, air-pressure
hydraulic devices: 2, special devices: 31 (computers for solving systems

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S/024/61/000/006/012/019
E140/E335

9.3240

AUTHOR: Kogan, B. Ya. (Moscow)

TITLE: On the bandwidth error of an operational amplifier

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye
tekhnicheskikh nauk. Energetika i avtomatika,
no. 6, 1961, 89 - 92

TEXT: The article examines the question of error due to
finite bandwidth in an operational amplifier. The analysis is
based on the Duhamel integral. The analysis is conducted, from
physical considerations, under the following assumptions:

- 1) the input signal is limited by the linearity limit of the
amplifier;
 - 2) the input signal is continuous and differentiable over the
entire time domain of existence, with the possible exception of
 $t = 0$, where the signal may suffer a discontinuity of the first
kind;
 - 3) the logarithmic amplitude-frequency characteristics of the
amplifier consist of a horizontal straight line segment from
 $\omega = 0$ to a certain frequency ω_0 , whereafter they decrease
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On the bandwidth error

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linearly. On the basis of these assumptions expressions are derived for the dynamic and steady-state error and it is found that the latter also depends on the frequency characteristics of the amplifier, decreasing as the bandwidth increases. Numerical data are given on the figures of merit obtained in this way for three types of operational amplifier circuit. There are 1 figure, 1 table and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The English-language reference mentioned is: Ref. 2: P.C. Dow, IRE Trans. December, 1957, v. EC-6, no. 4, p. 255. ✓

SUBMITTED: August 28, 1961

Card 2/2

RUSSIAN, B. YH

BERG, A.I., glav. red.; TRAPEZNIKOV, V.A., glav. red.; BERKOVICH, D.M.,
zaml glav. red.; LERNER, A.Ya., doktor tekhn. nauk, prof.,
zam. glav. red.; AVEN, O.I., red.; AGEYKIN, D.I., red.; kand.
tekhn. nauk, dots., red.; AYZERMAN, M.A., red.; VENIKOV, V.A.,
doktor tekhn. nauk, prof., red.; VORONOV, A.A., doktor tekhn.
nauk, prof., red.; GAVRILOV, M.A., doktor tekhn. nauk, prof.,
red.; ZERNOV, D.V., red.; IL'IN, V.A., doktor tekhn. nauk,
prof., red.; KITOV, A.I., kand. tekhn. nauk, red.; KOGAN, B.YA.,
doktor tekhn. nauk, red.; KOSTOUSOV, A.I., red.; KRINITSKIY,
N.A., kand. fiz.-mat. nauk red.; LEVIN, G.A., prof. red.;
LOZINSKIY, M.G., doktor tekhn. nauk, red.; IUSIYEVSKIY, V.L.,
red.; MAKSAREV, Yu.Ye., red.; MASLOV, A.A., dots., red.; POPKOV, A.A., red.;
RAKOVSKIY, M.Ye., red.; ROZENBERG, L.D., doktor tekhn. nauk,
prof., red.; SOTSKOV, B.S., red.; TIMOFEYEV, P.V., red.;
USHAKOV, V.B., doktor tekhn. nauk, red.; FEL'DBAUM, A.A.,
doktor tekhn. nauk, prof., red.; FROLOV, V.S., red.;
KHARKEVICH, A.A., red.; KHRAMOV, A.V., kand. tekhn. nauk, red.;
TSYPKIN, Ya.Z., doktor tekhn. nauk, prof., red.; CHELYUSTIN,
A.B., kand. tekhn. nauk, red.; SHREYDER, Yu.A., kand. fiz.-
mat. nauk, dots., red.; BOCHAROVA, M.D., kand. tekhn. nauk,
starshiy nauchnyy red.; DELONE, N.N., inzh., nauchnyy red.;
BARANOV, V.I., nauchnyy red.; PAVLOVA, T.I., tekhn. red.

(Continued on next card)

BERG, A.I. — (continued). Card 2.

[Industrial electronics and automation of production processes] Avtomatizatsiia proizvodstva i promyshlennaia elektronika.
Glav. red. A.I.Berg i V.A.Trapeznikov. Moskva, Gos.nauchn.
izd-vo "Sovetskaia Entsiklopediia." Vol.1. A - I. 1962. 524 p.
(MIRA 15:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Sotskov,
Kharkevich, Zernov, Timofeyev, Popkov).
(Automatic control) (Electronic control)

KOGAN, B. Ya., kand. tekhn. nauk, otv. red.; KOTEL'NIKOV, V.A.,
kand. tekhn. nauk, red.; KHRAMOV, A.V., kand. tekhn. nauk,
red.; TSYPKIN, Ya.Z., doktor tekhn. nauk, red.; SHILEYKO,
A.V., inzh., red.; SHILEYKO, T.I., red. isd-va; MAKUNI,
Ya.V., tekhn. red.

[Combined (analog - digital) computers] Kombinirovannye vy-
chislitel'nye mashiny; trudy. Moskva, Izd-vo Akad. nauk SSSR,
1962. 294 p. (MIRA 16:4)

1. Vsesoyuznaya konferentsiya-seminar po teorii i metodam
matematicheskogo modelirovaniya. 2d, Moscow, 1961.
(Electronic computers)

GULKO, F. D.; KOGAN, B. Ya.

"Method of Optimum Control with Prediction."

Paper to be presented at the IFAC Congress held in
Basel, Switzerland, 27 Aug to 4 Sep 63

KOGAN, B. Ya., kand. tekhn. nauk; SHILEYKO, A. V.

Theory and methods of mathematical modeling; 3rd thematic
conference. Vest. AN SSSR 33 no.1:121-122 Ja '63.
(MIRA 16:1)

(Mathematical models)
(Cybernetics—Congresses)

ACCESSION NR: AT4020715

9/0000/63/000/000/0253/0259

AUTHOR: Benderskiy, V. A.; Kogan, B. Ya.; Gachkovskiy, V. F.; Shlyapnikova, I. A.

TITLE: Electrical and magnetic properties of polymers with conjugated bonds.
1. Polyphenylacetylenes

SOURCE: Karbotsepnyye vyssokomolekulyarnyye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 253-259

TOPIC TAGS: polymer, conjugated polymer, polymer electrical property, polymer magnetic property, polyphenylacetylene, paramagnetic resonance, phenylacetylene polymerization

ABSTRACT: This work initiates a study of the nature of paramagnetic centers, the mechanisms of conductivity and the relationship between the two characteristics in conjugated polymers. The electron paramagnetic resonance spectra, the electrical conductivity and the optical centers were investigated in fractions of the product of thermal polymerization of phenylacetylene (atomic weight 670). The benzene- and toluene-soluble fractions, with atomic weights ranging from 340 to 1870, were obtained by successive sedimentation. In the tests conducted in nitrogen at 90-370 K and, in part, in a $2 \cdot 10^{-5}$ mm vacuum, a 975 kcps IKhF-2 paramagnetic resonance spectrometer was used. The paramagnetic center concentration and the saturation

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PHASE I BOOK EXPLOITATION

SOV/6430

Kogan, Boris Yakovlevich

Elektronnyye modeliruyushchiye ustroystva i ikh primeneniye dlya issledovaniya sistem avtomaticheskogo regulirovaniya (Electronic Analog Computers and Their Application in the Analysis of Automatic Control Systems) 2d ed., rev. and enl. Moscow, Fizmatgiz, 1963. 510 p. 20,000 copies printed.

Ed.: O. K. Sobolev; Tech. Ed.: Ye. A. Yermakova.

PURPOSE: This book is intended for readers with a theoretical and practical knowledge of automatic control and regulation and with the fundamentals of electronics.

COVERAGE: The first edition of the book was published in 1957. The present edition, the second, differs little from the first as regards general structure except for the addition of a new introduction, and a section dealing with amplifiers having parallel amplification chambers (Chapter IV). The book was

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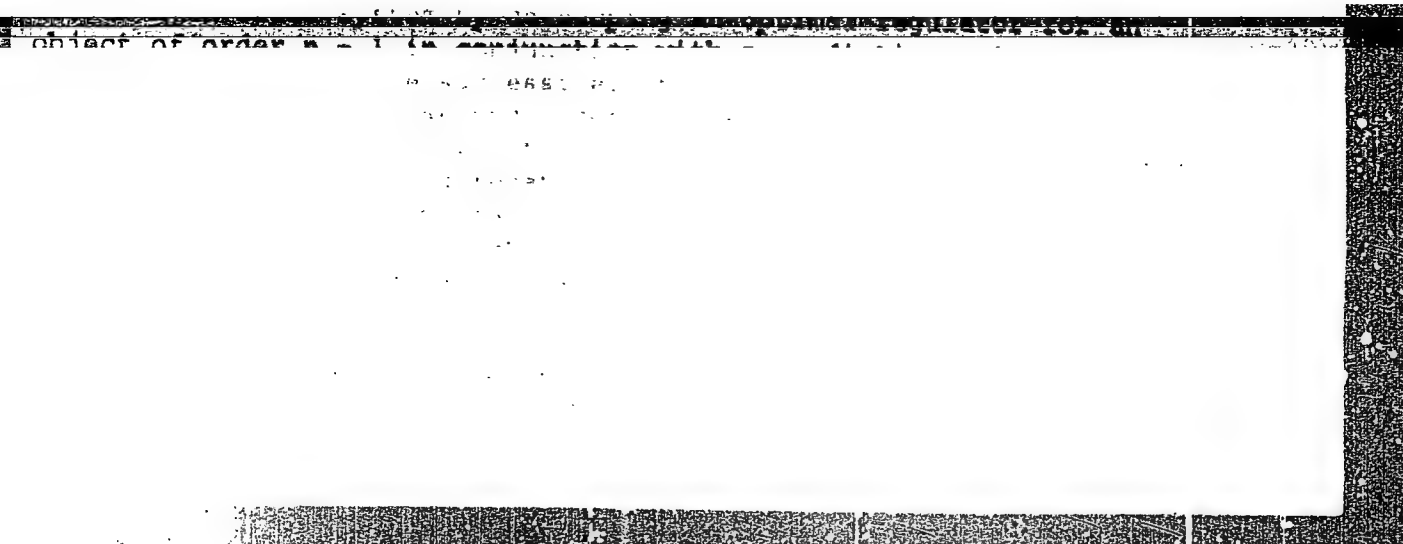
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SECTION NO. 105000000

APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723610007-5"

KOGAN, B. Ya.

"On the stability of the operational amplifier with non-linear feedback circuits."

report submitted for 4th Intl Conf, Intl Assn for Analogue Computation, Brighton,
UK, 14-18 Sep 64.

BERG, A.I., glav. red.; TRAPEZNIKOV, V.A., glav. red.; TSYPKIN, Ya.Z., doktor tekhn. nauk, prof., red.; VORONOV, A.A., doktor tekhn. nauk, prof., red.; SOTSKOV, B.S., doktor tekhn. nauk, red.; AGEYKIN, D.I., doktor tekhn. nauk, red.; GAVRILOV, M.A., red.; VENIKOV, V.A., doktor tekhn. nauk, prof., red.; CHELYUSTKIN, A.B., doktor tekhn. nauk, red.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof., red.; IL'IN, V.A., doktor tekhn. nauk, prof., red.; KITOV, A.I., doktor tekhn. nauk, red.; KRINITSKIY, N.A., kand. fiz.-matem. nauk, red.; KOGAN, B.Ya., doktor tekhn. nauk, red.; USHAKOV, V.B., doktor tekhn. nauk, red.; LERNER, Yu.A., doktor tekhn. nauk, prof., red.; FEL'DBAUM, A.A., prof., doktor tekhn. nauk, red.; SHREYDER, Yu.A., kand. fiz.-mat. nauk, dots., red.; KHARKEVICH, A.A., akad., red.; TIMOFEYEV, P.V., red.; MASLOV, A.A., dots., red.; LEVIN, G.A., prof., red.; LOZINSKIY, M.G., doktor tekhn. nauk, red.; NETUSHIL, A.V., doktor tekhn. nauk, prof., red.; POPKOV, V.I., red.; ROZENBERG, L.D., doktor tekhn. nauk, prof., red.; LIVSHITS, A.L., kand. tekhn. nauk, red.;

[Automation of production and industrial electronics] Avtomatizatsiya proizvodstva i promyshlennaya elektronika; entsiklopediya sovremennoy tekhniki. Moskva, Sovetskaya Entsiklopediya. Vol. 3. Pogreshnost' resheniya - Teleizmeritel'naya sistema chastotnaya. 1964. 487 p. (MIRA 17:10)

J. Chlen-korrespondent AN SSSR (for Sotсков, Gavrilov, Timofeyev, Popkov).

KOGAN, B.Ya., doktor tekhn. nauk, otv. red.; KOTEL'NIKOV, V.A.,
kand. tekhn. nauk, red.; FEL'DBAUM, A.A., doktor tekhn.
nauk, red.; KHRAMOY, A.V., kand. tekhn. nauk [deceased];
TSYPKIN, Ya.Z., doktor tekhn. nauk, red.; SHILEYKO, A.V.,
kand. tekhn. nauk, red.

[Computer technology in control; collection of the trans-
actions] Vychislitel'naya tekhnika v upravlenii; sbornik
trudov. Moskva, Nauka, 1964. 221 p. (MIRA 17:12)

1. Vsesoyuznaya konferentsiya seminarov po teorii i metodam
matematicheskogo modelirovaniya. 3d, 1962.

"APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723610007-5

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~~...incorporating the system by one order and using an analog-type predictor.~~

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"APPROVED FOR RELEASE: 09/18/2001

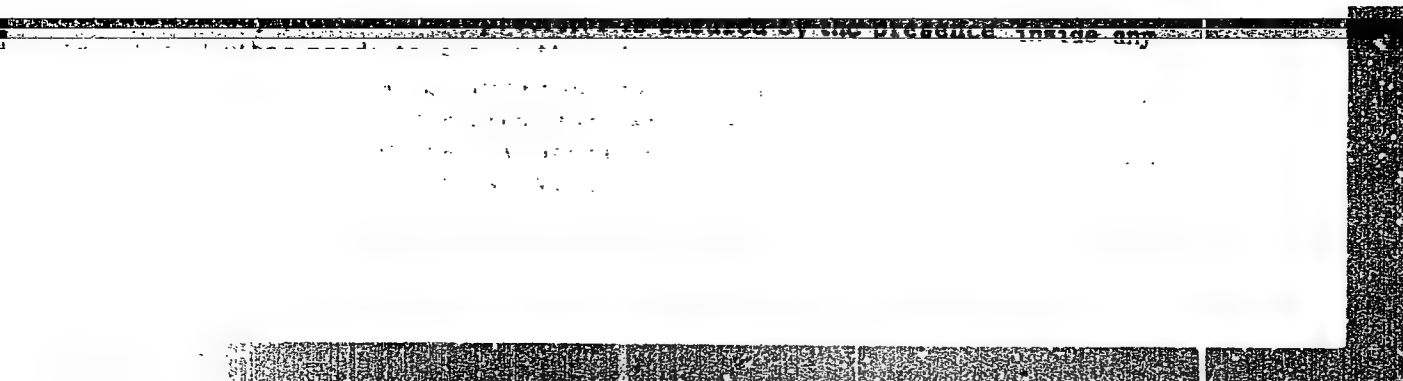
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APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723610007-5"

ACCESSION NR: AP4041157

S/0020/64/156/004/0897/0900

AUTHORS: Benderskiy, V. A.; Kogan, B.Ya.; Abramov, Yu.Yu.; Kapranova, L. Ye.

TITLE: Study of the sticking levels in organic photoconductors

SOURCE: AN SSSR. Doklady*, v. 156, no. 4, 1964, 897-900

TOPIC TAGS: organic photoconductor, electronic paramagnetic resonance, electron sticking, sticking level

ABSTRACT: The efficiency of the photoconducting organic materials depends on the drift velocity of the carriers. The latter has been found by A. Bree and W. G. Schneider, (Confer. Elect. Conduct. Organic Solids, 1961) to be affected by the electron sticking which leads to a greater inertia and low quantum yield. In order to eliminate the effect of sticking, the present authors have measured the photoconductivity and the spectra of the electronic paramagnetic resonance at a high intensity of illumination. The material investigated was triphenyl-methane dyes. The measurements were conducted at continuously changing temperature (100 to 350K).

Card 1/2

BERG, A.I., glav. red.; TRAPEZNIKOV, V.A., glav. red.; TSYFKIN, Ya.Z., doktor tekhn. nauk, prof., red.; VORONOV A.A., prof., red.; AGEYKIN, D.I., doktor tekhn. nauk red.; GAVRILOV, M.A., red.; VENIKOV, V.A., doktor tekhn. nauk, prof., red.; SOTSKOV, B.S., red.; CHELYUSTKIN, A.B., doktor tekhn. nauk, red.; PROKOF'YEV, V.N., doktor tekhn. nauk, prof., red.; IL'IN, V.A., doktor tekhn. nauk, prof., red.; KITOV, A.I., doktor tekhn. nauk, red.; KRINITSKIY, N.A., kand. fiz. mat. nauk, red.; KOGAN, B.Ya., doktor tekhn. nauk, red.; USHAKOV, V.B., doktor tekhn. nauk, red.; LERNER, A.Ya., doktor tekhn. nauk, prof., red.; FEL'DBAUM, A.A., doktor tekhn. nauk, prof., red.; SHREYDER, Yu.A., kand. fiz.-mat. nauk, red.; KHARKEVICH, A.A., akademik, red. [deceased]; TIMOFEYEV, P.V., red.; MASLOV, A.A., dots., red.; TRUTKO, A.F., inzh., red.; LEVIN, G.A., prof., red.; LOZINSKIY, M.G., doktor tekhn. nauk, red.; NETUSHIL, A.V., doktor tekhn. nauk, prof., red.; POPKOV, V.I., red.; ROZENBERG, L.D., doktor tekhn. nauk, prof., red.; LIFSHITS, A.L., kand. tekhn. nauk, red.; AVEN, O.I., kand. tekhn. nauk, red.; BLANN, O.M. [Blunn, O.M.], red.; EROYDA, V., inzh., prof., red.; BREKKL', L. [brockl, L.] inzh., knad. nauk, red.; VAYKHARDT, Kh. [Weichardt, H.], inzh., red.; BOCHAROVA, M.D., kand. tekhn. nauk, st. nauchn. red.

[Automation of production processes and industrial electronics]
 Avtomatizatsiya proizvodstva i promyshlennaya elektronika; entsiklo-
 pedia sovremennoi tekhniki. Moskva, Sovetskaya entsiklopediya.
 Vol.4. 1965. 543 p.

TRA 18:6)

L 38232-66 ENT(1)

ACC NR: AP6010292

SOURCE CODE: UR/0103/66/000/003/0164/0177

AUTHOR: Kogan, B. Ya. (Doctor of technical sciences; Moscow); Chernyshev, M. K. (Moscow)

ORG: none

TITLE: Delay simulation by operational amplifiers ²⁵

30
B

SOURCE: Avtomatika i telemekhanika, no. 3, 1965, 164-177

TOPIC TAGS: delay circuit, electronic amplifier

ABSTRACT: Three methods for the simulation of variable delay are examined: (1) approximating the initial transfer function by a transfer function of the appropriate differential equation with variable coefficients; (2) distributing the initial transfer function into a convergent series resulting in transfer functions without variable poles; (3) reducing the problem with variable time lag to a problem with constant shift (or translation) by another independent variable. Method (1) substantially limits the permissible variation speed of the delay. Method (2) does not restrict the variation speed of the delay, but does involve an amplitude error, in addition to a phase error. Method (3) is applicable only to a restricted number of problems; it does not limit the variation speed of the delay to the extent that method (1) does. Thus, in a system consisting of four operational amplifiers and one multiplier,

UPC: 621.374.5-501.72 : 621.375.3

Card 1/2

L 38232-66

ACC NR: AP6010292

$\tau'(t)_{\max} \leq 0.7 \text{ sec/sec}$, when $[\omega(t)]_{\max} \leq 7.5 \text{ sec}$, and the phase error is 2.0%. The application of this method combining linear operations in one operational amplifier and time-pulse multiplier involves an error that does not depend on the value of the input signal. Orig. art. has: 9 figures, 35 formulas.

SUB CODE: 09/

SUBM DATE: 01Nov65/

ORIG REF: 008/

OTH REF: 009

Card 2/2

ACC NR: AP6017986

(N)

SOURCE CODE: UR/0413/66/000/010/0086/0086

INVENTOR: Bashilov, I. P.; Bulanzhe, Yu. D.; Dubovik, A. S.; Yerofeyev, V. I.; Kevlishvili, P. V.; Kobrin, L. V.; Kogan, R. Ya.; Kaz'min, A. I.; Popov, Ye. I.; Mikhaylov, N. M.; Churbakov, A. I.; Shileyko, A. V.

ORG: None

TITLE: An automatic device for determining acceleration due to gravity on a movable base. Class 42, No. 181833 (announced by the Institute of Physics of the Earth imeni O. Yu. Shmidt, AN SSSR (Institut fiziki Zemli AN SSSR))

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 86

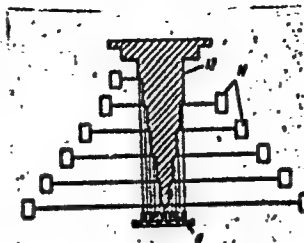
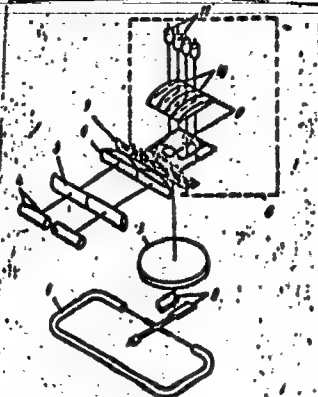
TOPIC TAGS: gravity, electron optics, electronic equipment, gravimeter

ABSTRACT: This Author's Certificate introduces an automatic device for determining acceleration due to gravity on a movable base, using a strongly damped elastic gravimeter system. The installation contains a meter for acceleration due to gravity, a system of mirrors, lens, light source, two condensers and a slotted prism. Accuracy of measurement is improved, and processing of the resultant information is automated by using an electron-optical converter which changes angles of turn of a pendulum to digital code. This converter is made in the form of a code mask with lenses attached. A prism is mounted behind the lenses with metallic mirrors and photocells.

Card 1/2

UDC: 531.768.08:528.026

ACC NR: AP6017986



1—accelerometer; 2—system of mirrors; 3—objective lens; 4—light source; 5 and 6—
condensers; 7—slotted prism; 8—electron-optical converter; 9—code mask; 10—
lenses; 11—photocells; 12—prism with metallic mirrors

SUB CODE: 09, 08/ SUBM DATE: 11 May 64

Card 2/2

11-6-77

AUTHOR: Potashnikov, M.M., Candidate of Technical Sciences and ⁵²⁹
Kogan, B.E., Engineer (VUKhIN)

TITLE: An investigation of the properties of coal tar for the purpose
of analyses and calculations of the process of its rectifi-
cation. (Issledovanie svoystv kamennougol'noy smoly dlya
analiza i raschetov protsessa ee rektifikatsii.)

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry),
1957, No. 4, pp. 39 - 44, (U.S.S.R.)

ABSTRACT: A method for the investigation of coal tars which permits
the determination of their potential contents of given
fractions as well as the physico-chemical characteristics of
these fractions for the purpose of calculating the tar recti-
fication process is proposed. It is based on distillation
of a coal tar distillate (up to 400 °C) on a laboratory
column (36 theoretical plates) and collection of 22 fractions
of approximately equal volume (except the first two which were
smaller). For each fraction, the following determinations
were carried out: boiling range, molecular weight and melting
temperature, moreover, in fractions 1-15 (collected up to
305 °C) the content of phenols and bases; in fractions 1-11
(collected at 188-258 °C) naphthalene content; in fractions
10-15 (243-305 °C) acenaphthene content; in fractions 15-22
(305-353 °C) anthracene content; in fractions 16-19 (320-342 °C)
phenanthrene content and in fractions 17-22 (336-353 °C)

5(3)

SCV/80-32-3-30/43

AUTHORS: Potashnikov, M.M., Kogan, B.Ye.

TITLE: The Preparation of Quinaldic Acid From Bases of Coal Tar
(Polucheniye khinal'dinovoy kisloty iz osnovaniy koksennougol'noy smoly).

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol XXXII, Nr 3, pp 636-641
(USSR)

ABSTRACT: Quinaldic acid is used for the determination of zinc, copper, cadmium, and uranium in large and small quantities and for their separation from other metals. An important source are the bases of coal tar. In the bases separated from fractions boiling below 300°C the quinaldine content is 5% [Ref. 10, 11]. In the heavy fraction the content is 8-10%. It is known that quinaldine interacts with formaldehyde on heating forming a mixture of methylol derivatives which are oxidized by nitric acid to quinaldic acid. The formulas for the reactions are given. The obtained quinaldic acid is 99.6-99.9% pure after a single recrystallization with a melting temperature of 155.5-156.5°C.

Card 1/2

SCV/60-32-3-30/43

The Preparation of Quinaldic Acid From Bases of Coal Tar

There are 2 tables and 14 references, 11 of which are Soviet
and 3 German.

SUBMITTED: July 8, 1957

Card 2/2

S/068/60/000/010/002/002/XX
E071/E433

AUTHORS: Potashnikov, M.M. and Kogan, B.Ye.

TITLE: Production of Pure Quinaldine from Coal Tar Bases

PERIODICAL: Koks i khimiya, 1960, No.10, pp.49-51

TEXT: The authors investigated the possibility of separating quinaldine from its mixture with other quinoline bases in the form of hydrochloride. As a starting raw material, a narrow fraction of coal tar bases was used. It had the following properties: specific gravity 1.080, boiling range 243 - 246°C and contained 30% of quinaldine and about 70% of quinoline and isoquinoline. The experimental procedure consisted of passing a calculated amount of dry hydrogen chloride through the starting material on stirring (the apparatus is shown in Fig.1). After the end of the precipitation reaction, the reaction mixture was heated to 120°C whereupon the precipitated quinaldine hydrochloride was redissolved and then reprecipitated on cooling to 20°C. The precipitate was filtered off on a Beuchner funnel and washed with benzene (double amount of the starting material). After drying at 80°C the substance obtained melted at 218 to 225°C. The degree of recovery of quinaldine was 76%. The experimental results are given in Card 1/2

S/068/60/000/010/002/002/XX
E071/E433

Production of Pure Quinaldine from Coal Tar Bases

Table 1. The separation of quinaldine from its hydrochloride was done by the decomposition with a 20% solution of sodium hydroxide (up to the appearance of alkali reaction with phenolphthalein). The bases were separated from the aqueous layer, dried with solid alkali and redistilled. The residual quinaldine in the aqueous layer was extracted with benzene. The quinaldine obtained (Table 2) satisfied the requirements of БТУМХП 2893-51 (VTUMKhP 2893-51) standard for reagent quinaldine. In order to obtain quinaldine of a higher purity, the separated quinaldine hydrochloride was recrystallized from 95% ethyl alcohol (Table 3). On the basis of the above experimental data a technological scheme for the production of quinaldine is proposed (Fig.2). It differs from the laboratory procedure in that, after the decomposition of quinaldine hydrochloride with alkali, quinaldine is extracted with benzene and the solvent removed by distillation in vacuo. There are 2 figures, 3 tables and 3 Soviet references.

ASSOCIATION: VUKhIN

Card 2/2

S/068/61/000/012/001/002
E071/E435

AUTHOR: Kogan, B.Ye.

TITLE: Production of pure lepidine from coal tar bases

PERIODICAL: Koks i khimiya, no.12, 1961, 48-51

TEXT: A laboratory investigation of the separation of lepidine from coal tar bases is described. Bases separated from the absorption (creosote) oil fraction of coal tar from the Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhne-Tagil' Metallurgical Combine) were used as a starting raw material (sp.gr. 1.100; H₂O 8.6%; the content of bases 87.5%; boiling characteristics: 10% 243°C; 50% 254°C; 90% 281°C). By double rectification, a narrow lepidine fraction, boiling within 260 to 266°C, was obtained. The yield being 8% on heavy bases. The fraction was dissolved in benzene (bases to benzene 1:2) and the bases were extracted with 10 to 20% sulphuric acid, whereupon indole remains in the benzene solution. The aqueous solution of sulphates was decomposed with alkali and the separated bases were redistilled. The difference in the solubility of acid sulphates of lepidine and of accompanying bases in methyl and ethyl alcohols was used for the separation of

Card 1/4

Production of pure lepidine ...

S/068/61/000/012/001/002
E071/E435

to be suitable for small scale production of lepidine. The experimental results are summarized in Table 2. There are 1 figure, 3 tables and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc. The reference to an English language publication reads as follows: Ref.1: H.N.Nisbet, A.M.Prude. Journal of the Institute of Fuel, 1954, 27, no.157, 58-66.

ASSOCIATION: VUKhIN

Card 3/4

PRIVALOV, V.Ye.; KOGAN, B.Ye.; NOVIKOV, Y.N.

Distillation of heavy pyridine bases. Koks i khim. no.12:46-49
'62. (MIRA 16:1)

1. Vostochnyy uglekhimicheskiy institut.
(Pyridine bases)

KOGAN, B. Ye.

Recovery of pure quinoline. Koks i khim. no.9:45-47 '63.
(MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut.
(Quinolins)

KOGAN, B. Yu.

Unfortunate comparison. *Fis. v shkole* 13 no.4:87 J1-Ag '53. (MLBA 6:6)
(Electric power)

KOGAN, B.Yu. (Moscow)

On an incorrect illustration. *Fiz.v shkole* 14 no.1:81 Ja-F '54.
(MLSA 7:1)
(Physics--Text-books) (Sokolov, I.I.)

KOGAN, B.Yu.

Problems in mechanics. Fiz. v shkole 14 no.3:73-74 Ky-Je '54.
(MLRA 7:7)

1. 4-ya shkola rabochey molodeshi, g. Moskva.
(Mechanics--Problems, exercises, etc.)

KOGAN, B.Yu.

A few physics problems. Fiz.v shkole 15 no.3:74-75 My-Je '55.
(MLRA 8:6)

1. 4-ya shkola rabochey molodashi (g.Moskva)
(Physics--Problems, exercises, etc.)

18644-10-101
KOGAN, B.Yu. (Moscow)

Some cases illustrating the applicability of equations of motion.
Fiz. v shkole 15 no.4:36-37 J1-Ag'55. (MIRA 8:10)
(Motion--Study and teaching)

KOGAN, B.Yu. (Moskva)

Problems for extracurricular work. Fiz. v shkole 23 no.5:90-
93 S-0 '63. (MIRA 17:1)

KOGAN, B.Yu. (Moskva)

An extremum property of constraints. Prikl. mat. i mekh. 28 no.5;
921-922 S-0 '64. (MIRA 17:11)

KOGAN, Boris Yur'yevich; RAYSKAYA, N.A., red.

[One hundred problems in physics] Sto zadach po fizike.
Moskva, Nauka, 1965. 60 p. (MIRA 18:7)

KOGAN, B. Z., and TRAPEZNIKOV, V. A.

"Electronic Models and Their Application in the Development and Design of an Automatic Regulation System." A paper given at the conference on Control Technology, Modern Theory and its Applications, Heidelberg, 25-29 Sept 1956.

GUMNITSKIY, T.; RUMYANTSNY, L.; KOGAN, D.

Economic council enterprises increase production of household goods. Sov.torg. no.6:18-21 Jo '58.

(MIRA 13:2)

(Household appliances)

KOGAN, D.; RUNYANTSIN, L.

New contacts between wholesale trade and industry. Sov. torg.
no.10:7-10 0 '58. (MIRA 11:10)
(Wholesale trade) (Russia--Industries)

KOGAN, D.

KOGAN, D.

Raschet parashutnogo pryzhka. (Samolet, 1936, no. 3, p. 35,
diagr.)

Title tr.: Calculation of parachute jump performance.

TL504.S25 1936

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
Congress, 1955.

KOGAN, David Abranovich; SHILINIS, Yu.A., red.

[Homeopathy and modern medicine] Gomeopatiia i sovremen-
naia meditsina. Moskva, Meditsina, 1964. 216 p.
(MIRA 17:12)

KOGAN, D. A.

Kogan, D. A., Grishina, K.F. and Frolova, A. Yu. "The treatment of ulcers and sluggish wounds by iontophoresis, ascorbic acid, and Roentgen ultraviolet rays," Sbornik trudov Nauch.-issled. in-ta ortopedii, travmatologii i protezirovaniya (M-vo zdravookhraneniya Uz SSR), Vol. I, 1948, p. 149-56

SO: U-4934, 29 Oct. 53. (Letopis 'Zhurnal 'nykh Statel', No. 16, 1949).

KOGAN, D.A.; KONSTANTINOVA, G.M.; BABUSHKINA, V.G.

Pancreatic function in hypertension. Klin. med., Moskva 30 no.2:77
Feb 1952. (GLML 22:1)

1. Professor for Kogan. 2. Of the Department of Physiotherapy, Middle-
Asiatic Institute for the Advanced Training of Physicians (Director --
D. S. Pulatov), Tashkent.

USSR / Microbiology. General Microbiology. Effect of F
External Agents. Disinfection.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5421.

Author : Kogan, D. A.; Kel'man, Z. N.
Inst : Uzbek Institute of Orthopedics, Traumatology
and Prosthetics.
Title : Effect of Ultraviolet Radiation of Bacteriocidal
Lamp on Pathogenic Microflora of Wounds.

Orig Pub: Tr. Uzb. in-1. in-ta ortopedii, travmatol, i
protezir., 1955, 6, 89-91.

Abstract: The effect of domestic ultraviolet bacteriocidal
lamp, emitting only ultraviolet rays radiation
with a wave length of 263.5 m/ μ on *Proteus*, *Bac-*
illus pyocyaneus, *Escherichia coli*, *Staphylococ-*
cus aureus, and *Staphylococcus albus* was studied.

Card 1/2

APPROVED FOR RELEASE: 09/18/2001 CIA-RDP86-00513R000723610007-

USSR / Microbiology. General Microbiology. Effect of F
External Agents. Disinfection.

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5421.

Abstract: The optimal bacteriocidal dosage was found to
be an exposure for 30 min. at a distance of
5 cm from the lamp.

Card 2/2

KOOAN, D.A., professor; PILOVITSKAYA, V.N., mladshiy nauchnyy sotrudnik;
SAYAPINA, L.I.

Antitoxic hepatic function in fractures of the long bones as affected
by some physical factors. Ortop., travm. i protes. 17 no.3:68 My-Je '56

(MIRA 9:12)

1. In Usbekskogo nauchno-issledovatel'skogo instituta ortopedii,
travmatologii i protesirovaniya (dir. - kandidat meditsinskikh nauk
A.Sh.Shakirov)

(LIVER)

(FRACTURES)

(PHYSICAL THERAPY)

KOGAN, D.A., prof.; KURZAYEVA, V.Ya.; YUSUPOV, T.Yu.

Water and salt metabolism in patients with fractures of the
long bones. Med.shur.Usb. no.11;42-45 N '58. (MIRA 13:6)
(FRACTURES) (SALT IN THE BODY)

USSR/Human and Animal Physiology - (Normal and Pathological)
Physiology of the Skeleton.

T

Abs Jour : Ref Zhur Biol., No 4, 1959, 17853

Author : Kogan, D.A., Pilovitskaya, B.N.

Inst ; Uzbek Scientific Research Institute of Traumatology and
Orthopedics

Title : Creatin-Craatinin Metabolism in Patients with Fractures
of Long Bones and the Influence of It on Some Physical
Factors.

Orig Pub : Tr. Uzb. n.-i. in-ta travmatol. i ortopedii, 1957(1958),
7, 49-53

Abstract : No abstract.

Card 1/1

- 74 -

KOGAN, David Aronovich

[Polioomyelitis] Poliomielit. Tashkent, Gos.izd-vo Uzbekskoi
SSR, 1956. 74 p. (MIRA 16:2)

(POLIOMYELITIS)

KOGAN, D.A., kand. med. nauk (Leningrad)

Review of the book "Diseases of the liver and bile ducts";
transactions of the Leningrad Medical Institute for Sanita-
tion and Hygiene. Klin. med. 41 no.6:162-164 Js '63.
(MIRA 17:1)

KOGAN, D.A.

Convolution of infinite matrices and its use in improving the
summability of functional series. Mat. zap. Ural. mat. ob-va
UrGu 4 no.2:80-90 '63 (MIRA 17:8)

SHISHLYAKOV, A.V., kand.tekhn.nauk; KOGAN, D.A.; ANTONOVA, L.N.

Single-track automatic block system without main track signal lights and with unlimited pulse track circuits. Avtom., telem. i svyaz' 9 no.5:20-24 My '65. (MIRA 18:5)

1. Vedushchiy konstruktorskogo byuro Glavnogo upravleniya signalizatsii i svyazi Ministerstva putey soobshcheniya (for Kogan). 2. Starshiy inzh. konstruktorskogo byuro Glavnogo upravleniya signalizatsii i svyazi Ministerstva putey soobshcheniya (for Antonova).

KOGAN, David Abramovich; SHILINIS, Yu.A., red.

[Homeopathy and modern medicine] Gomeopatiia i sovremennaiia meditsina. Moskva, Meditsina, 1964. 216 p.
(MIRA 18:9)

S/081/61/000/019/071/085
B117/B110

AUTHORS: Shevelev, F. A., Kogan, D. F., Vanyakin, D. M.

TITLE: Application of tubes made of high-density polyethylene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 19, 1961, 479, abstract 19928 (Vodosnabzh, i san. tekhn., no. 3, 1961, 13-17)

TEXT: Production methods of polyethylene tubes, their properties and fields of application are described. Methods for connecting polyethylene tubes are given and an assortment of pressure tubes made of high-density polyethylene is listed. [Abstracter's note: Complete translation.]

Card 1/1

KOGAN, D.I.; RYCHAGOV, V.A.

Studying the effect of certain reagents on the flotation properties
of carbonatite rock minerals. Izv. vys.ucheb.zav.; tsvet. met. 6
no.3:51-57 '63. (MIRA 16:9)

1. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut
redkikh metallov.
(Flotation) (Carbonatites)

KOGAN, D.I., Cand. Sci.—(diss) ^(study of the) "On the problem of the behavior
of variations of zinc blende in the flotation of lead-zinc ores."

Mos, 1958. 18 pp (Min of Higher Education USSR. Mos. Inst of Non-Ferrous
Metals and Gold in M.I. Kalinin. Chair of ^{Concentration} ~~Processing~~ of Minerals"),

150 copies (KL, 48-58, 104)

-42-

KOGAN, D.I.

Investigating the effect of iron on lattice parameters of sphalerite from certain deposits in the Soviet Union. Izv.vys. ucheb. sav.; tsvet. met. no.3: 49-53 ' 58. (MIRA 11:11)

1. Moskovskiy institut tsvetnykh metallov i zolota. Kafedra obogashcheniya poleznykh iskopayemykh.
(Sphalerite) (Crystal lattices)

SOV/149-58-4-7/26

AUTHORS: Kogan, D.I., and Yasyukevich, S. M.

TITLE: Study of the Action of Flotation Reagents on the Varieties of Zinc Blendes by the Potential Measurement Method (Izucheniye deystviya flotatsionnykh reagentov na raznovidnosti tsinkovykh obmanok metodom izmereniya potentsiala)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 4, pp 47-55 (USSR)

ABSTRACT: The surface changes taking place on the surfaces of eight varieties of zinc blendes (48.30 - 62.42% Zn) under the action of flotation reagents were studied. As in some other researches (refs.1-4) the method of measuring the electro-chemical potential was used. One end of the cylindrical specimen was electrolytically coated with copper to which a lead was soldered; the specimen was fixed in a glass tube and covered with paraffin except for the uncoppered end. This electrode was placed in circuit with a saturated calomel electrode, the emf being found with the aid of a high-resistance potentiometer. The authors present their

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SOV/149-58-4-7/26

Study of the Action of Flotation Reagents on the Varieties of
Zinc Blendes by the Potential Measurement Method
solution having pH values over 10 the shift of emf
produced by adding sodium cyanide becomes very small.
There are 9 figures, 1 table and 4 Soviet references.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota.
Kafedra obogashcheniya poleznykh iskopayemykh (Moscow
Institute of Non-Ferrous Metals and Gold. Chair of
Ore Beneficiation)

SUBMITTED: 30th December 1957.

Card 3/3

SOV/136-58-11-3/21

AUTHORS: ~~Kagan, D.I.~~
Yasyukevich, S.M.

TITLE: On the Mechanism of the Action of the Zinc Cyanide
Complex (O mekhanizme deystviya kompleksa tsianida
tsinka)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 11, pp 17-19 (USSR)

ABSTRACT: $\text{Na}_2\text{Zn}(\text{CN})_4$ is widely used for mineral depression but
there is contradictory information in the literature
(refs.2-5) on the mechanism of the action of the
anion, $\text{Zn}(\text{CN})_4^{2-}$. The authors describe experiments
in which the sorption of the substance on zinc-sulphide
minerals was studied using radioactive Zn^{65} or Cl^{36}
as the tracers, two parallel series being carried out.
No sorption of the complex anion on the mineral was
found and the authors attribute its depressing
action to its disruption by sulphur ions (appearing
on account of the solution of the mineral) to give
a hydrophylic zinc-sulphide precipitate and free
cyanide ions in solution. The observed stronger
action of the complex on ferruginous zinc blendes

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SOV/136-58-11-3/21

On the Mechanism of the Action of the Zinc Cyanide Complex

is due to the easier passage of sulphur into solution (compared with low-iron blends) and, possibly, the formation of a ferricyanide complex. There are 2 tables and 6 references of which 5 are Soviet and 1 English.

ASSOCIATION: Mintsvetmetzoloto

Card 2/2

KOGAN, D.I.; SELYUGINA, R.A.

Repairing excavators by replacing units. Transp.stroi. 9
no.12:22-24 D '59. (MIRA 13:5)

1. Nachal'nik Tsentral'noy mashinorokatnoy bazy (for Kogan).
2. Zamestitel' nachal'nika otдела ekspluatatsii mekhanizma
Glavstroymekhanizatsii (for Selyugina).
(Excavating machinery--Maintenance and repair)

KOGAN, D.I.

Progressive practices in using automotive transportation.
Transp.stroi. 10 no.3:40-41 Nr '60. (MIRA 13:6)

1. Nachal'nik Tsentral'noy mashinoprokatnoy bazy Glavstroyekhani-
zatsii.

(Transportation, Automotive)

YEVDOKIMOV, B.Ye.; KOGAN, D.I.

Method of calculating the economic efficiency of new drilling equipment. Razved.i okh.nedr 28 no.4:25-30 Ap '62.

(MIRA 15:4)

1. Tsentral'noye konstruktorskoye byuro Ministerstva geologii i okhrany nedr SSSR.

(Boring machinery)

GRAF, L.E.; KOGAN, D.I.; NOVOZHILOV, V.I.

Hydraulic drill. Gor.shur. no.1:76 Ja '63.
(Boring machinery)

(MIRA 16:1)

GRAF, L.E.; KOGAN, D.I.

Rock-breaking tool for drilling with hydraulic hammers. Trudy
MGRI 39:121-127 '63. (MIRA 16:10)

GRAF, L.E.; KOGAN, D.I.

The K26M-6 bit for drilling test wells. Biul.tekh.-ekon.inform.
Gos.nauch.-issl.inst.nauch.i tekh.inform. no.9:12-13 '63.

(MIRA 16:10)

KOGAN, D.I.

Rock-breaking tool with a hydraulic striker-head for combination drilling. Razved. i okh. nedr 27 no. 1:18-23 Ja '61. (MIRA 17:2)

1. Tsentral'noye konstruktorskoye byuro Ministerstva geologii i okhrany nedr SSSR.

LITVINOV, N.N.; GRAF, L.E.; KOGAN, D.I.; MAZURENKO, V.V.

Annular drill bit. Gor. zhur. no.3:69 Mr 63.

(MIRA 16:4)

KOGAN, D.I.; BERESTEN', L.K.

Introducing the OPT-2 pit for hydraulic percussion drilling in hard
rocks. Biul. tekhn.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform.
17 no.7:14-15 J1 '64. (MIRA 17:10)